



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,401	09/23/2003	James B. Carpenter	58973US002	2520

32692 7590 04/07/2005

3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

EXAMINER

CHIEM, DINH D

ART UNIT PAPER NUMBER

2883

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/668,401

Applicant(s)

CARPENTER ET AL.

Examiner

Erin D. Chiem

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 26 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date March 31, 2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This office action is in response to the application 10/668401 filed on September 23, 2003.

#### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-25, drawn to an optical fiber gripping device and an optical fiber splice, classified in class 385, subclass 135 and 136.
- II. Claim 26-27, drawn to method of making optical fiber gripping device, classified in class 385, subclass 136.

1. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the method described is applicable in the art of making any clamps and gripping devices such as scissors or salad tossing clamps using plastic or any type of desirable metal.

2. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Greg Rosenblatt on March 30, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-25. Affirmation of this election must be made by applicant in replying to this Office action.

Art Unit: 2883

Claims 26-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Information Disclosure Statement***

The Information Disclosure Statements filed on February 13, 2004 and February 22, 2005 are being considered. See the attached USPTO Form 1449.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 12, 14-20, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Patterson (US 5102212). Patterson teaches an optical fiber gripping device comprising a sheet of material having first and second members (Fig. 1-4) hingedly attached at a first end of each of the members (claim 12); and a gripping region that includes first and second gripping portions disposed on first and second inner portions of each of said members, respectively to apply a substantially even distribution of force to an outer perimeter of an optical fiber disposed in said gripping region (Fig. 15). The gripping portion comprises a substantially ductile material (col. 4, line 54) having grooves (Fig. 2, 5, 12, 15). And as seen in Fig. 12, 15, and 16, the grooves are semicircular shape. Regarding claim 5, the limitation is a description of the operation of a gripping or clamping device and such disclosure of the operation is described throughout Patterson patent. Fig. 8, 12, 15-16 shows the multiple slots on the inner sides of the gripping

Art Unit: 2883

device and furthermore, Fig. 8 shows the gripping device used in a connector. Furthermore, Patterson teaches elements for making butt splices in two optical fibers (col. 3, line 34), a housing to support the first and second ends in contact (col. 6, line 67- col. 7, line 1), also known as a splice, wherein the housing applies a substantially even distribution of force to an outer perimeter of at least a portion of the first and second optical fibers (col. 7, line 6-27).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson. Patterson teaches an optical fiber gripping device comprising a sheet of material having first and second members (Fig. 1-4) hingedly attached at a first end of each of the members (claim 12); and a gripping region that includes first and second gripping portions disposed on first and second inner portions of each of said members, respectively to apply a substantially even distribution of force to an outer perimeter of an optical fiber disposed in said gripping region (Fig. 15). The gripping portion comprises a substantially ductile material (col. 4, line 54) having grooves (Fig. 2, 5, 12, 15). And as seen in Fig. 12, 15, and 16, the grooves are semicircular shape. Regarding claim 5, the limitation is a description of the operation of a gripping or clamping device and such disclosure of the operation is described throughout Patterson patent.

Art Unit: 2883

However, Patterson does not expressly teach the specific range of outer diameter of the device or at which point of the circumference of the fiber that the splicing tool make contact to.

9. It would have been obvious at the time the invention was made to one of ordinary skill in the art to provide a splicing tool having means to fit around the circumference of the fiber such that splicing can be performed with respect to the splicing tool disclosed by Patterson since it has been held that discovery of optimum ranges within prior art general conditions is obvious. In re Aller et al., 105 USPQ 233.

10. Claims 10-11, 13, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson in view of Novack et al. (US Re 36,146).

11. Patterson teaches an optical fiber gripping device comprising a sheet of material having first and second members (Fig. 1-4) hingedly attached at a first end of each of the members (claim 12); and a gripping region that includes first and second gripping portions disposed on first and second inner portions of each of said members, respectively to apply a substantially even distribution of force to an outer perimeter of an optical fiber disposed in said gripping region (Fig. 15). The gripping portion comprises a substantially ductile material (col. 4, line 54) having grooves (Fig. 2, 5, 12, 15). And as seen in Fig. 12, 15, and 16, the grooves are semicircular shape. Regarding claim 5, the limitation is a description of the operation of a gripping or clamping device and such disclosure of the operation is described throughout Patterson patent. Fig. 8, 12, 15-16 shows the multiple slots on the inner sides of the gripping device and furthermore, Fig. 8 shows the gripping device used in a connector. Furthermore, Patterson teaches elements for making butt splices in two optical fibers (col. 3, line 34), a housing to support the first and second ends in contact (col. 6, line 67- col. 7, line 1), also known

as a splice, wherein the housing applies a substantially even distribution of force to an outer perimeter of at least a portion of the first and second optical fibers (col. 7, line 6-27).

Furthermore, Patterson teaches materials used for the gripping members is softer than the glass of the fiber such that when pressure is placed on the fiber to butt splice the fibers together will no damage the glass fiber and cause unwanted transmission loss. And Patterson also accounted for optical fiber manufacturing size variation. The ductile material on the gripping members will compress and allow the tool to grip two substantially similarly sized fibers, but are not exactly the same circumference. However, Patterson do not expressly teach the device butt splice an optical fiber comprises a glass core, a glass cladding, and a polymer based coating affixed to the cladding; wherein the cladding coating is softer than the material of the gripping portions.

12. Novack et al. discloses an optical fiber comprises an optical fiber having a polymer-based coating affixed to the cladding for the purpose of protecting the glass fiber from environmental and mechanical abuse (col. 1, line 19-26).

13. Since Patterson and Novack et al. are both from the same field of endeavor, the purpose disclosed by Novack would have been recognized in the pertinent art of Patterson.

14. It would have been obvious at the time the invention as made to a person having ordinary skill in the art to further improve the malleability of the splicing element by further protecting the optical fibers with polymeric coating, which is well-known in the art of optical fiber. The increased malleability in both the material used to make the gripping members and the coating of the optical fiber cladding allows the tool taught by Patterson to have a firmer grip of two fibers having same circumference without damaging the glass fiber within.

Art Unit: 2883

15. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson in view of Calvert et al. (US 4675136 A).

16. Patterson teaches an optical fiber gripping device comprising a sheet of material having first and second members (Fig. 1-4) hingedly attached at a first end of each of the members (claim 12); and a gripping region that includes first and second gripping portions disposed on first and second inner portions of each of said members, respectively to apply a substantially even distribution of force to an outer perimeter of an optical fiber disposed in said gripping region (Fig. 15). The gripping portion comprises a substantially ductile material (col. 4, line 54) having grooves (Fig. 2, 5, 12, 15). And as seen in Fig. 12, 15, and 16, the grooves are semicircular shape. Regarding claim 5, the limitation is a description of the operation of a gripping or clamping device and such disclosure of the operation is described throughout Patterson patent. Fig. 8, 12, 15-16 shows the multiple slots on the inner sides of the gripping device and furthermore, Fig. 8 shows the gripping device used in a connector. Furthermore, Patterson teaches elements for making butt splices in two optical fibers (col. 3, line 34), a housing to support the first and second ends in contact (col. 6, line 67- col. 7, line 1), also known as a splice, wherein the housing applies a substantially even distribution of force to an outer perimeter of at least a portion of the first and second optical fibers (col. 7, line 6-27). Furthermore, Patterson teaches materials used for the gripping members is softer than the glass of the fiber such that when pressure is placed on the fiber to butt splice the fibers together will not damage the glass fiber and cause unwanted transmission loss. And Patterson also accounted for optical fiber manufacturing size variation. The ductile material on the gripping members will compress and allow the tool to grip two substantially similarly sized fibers, but are not exactly



Art Unit: 2883

the same circumference. However, Patterson does not teach an optical fiber splice comprising at least one fiber is a plastic optical.

17. Calvert et al. teach butt splicing of two plastic optical fibers in Fig. 4 for the purpose of connecting two fibers together in applications such as in transmission line, unlikely due to poor quality of fiber, or when required to couple a fiber to an optical device such as a connector.

18. Since Patterson and Calvert et al. are both from the same field of endeavor, the purpose disclosed by Calvert et al. would have been recognized in the pertinent art of Patterson.

19. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to realize that a splicing tool is meant to splice various types of fibers together.

20. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson in view of Wang et al. (US 6471417 B1).

21. Patterson teaches an optical fiber gripping device comprising a sheet of material having first and second members (Fig. 1-4) hingedly attached at a first end of each of the members (claim 12); and a gripping region that includes first and second gripping portions disposed on first and second inner portions of each of said members, respectively to apply a substantially even distribution of force to an outer perimeter of an optical fiber disposed in said gripping region (Fig. 15). The gripping portion comprises a substantially ductile material (col. 4, line 54) having grooves (Fig. 2, 5, 12, 15). And as seen in Fig. 12, 15, and 16, the grooves are in a semicircular shape. Regarding claim 5, the limitation is a description of the operation of a gripping or clamping device and such disclosure of the operation is described throughout Patterson patent. Fig. 8, 12, 15-16 shows the multiple slots on the inner sides of the gripping device and furthermore, Fig. 8 shows the gripping device used in a connector. Furthermore,

Art Unit: 2883

Patterson teaches elements for making butt splices in two optical fibers (col. 3, line 34), a housing to support the first and second ends in contact (col. 6, line 67- col. 7, line 1), also known as a splice, wherein the housing applies a substantially even distribution of force to an outer perimeter of at least a portion of the first and second optical fibers (col. 7, line 6-27).

Furthermore, Patterson teaches materials used for the gripping members is softer than the glass of the fiber such that when pressure is placed on the fiber to butt splice the fibers together will not damage the glass fiber and cause unwanted transmission loss. And Patterson also accounted for optical fiber manufacturing size variation. The ductile material on the gripping members will compress and allow the tool to grip two substantially similarly sized fibers, but are not exactly the same circumference. However, Patterson does not teach an optical fiber splice comprising at least one TECS fiber.

22. Wang et al. indirectly disclose that TECS requires splicing (col. 3, line 23 – 28).

23. Since Patterson and Calvert et al. are both from the same field of endeavor, the purpose disclosed by Wang et al. would have been recognized in the pertinent art of Patterson.

24. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to realize that a splicing tool is meant to splice various types of fibers together.

### *Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art teaches the invention in combination: Carpenter et al. (US 5155787 A), Carpenter et al. (US 5159653 A), Carpenter et al. (US 5151964 A), Doss et al. (US 5155781 A), Larson et al. (US 5138681 A), Larson et al. (US 5189717 A).

Art Unit: 2883

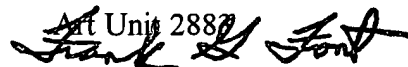
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erin D Chiem  
Examiner

Art Unit 2883



Frank G. Font  
Supervisory Primary Examiner  
Technology Center 2800

edc